

ER5-7386

Approved For Release 2001/03/02 : CIA-RDP78-03721A000400010002-3

83d Congress, 2d Session

House Document No. 401

THE THIRTY-FIRST AND THIRTY-SECOND  
ANNUAL REPORTS OF THE BOARD OF  
ACTUARIES OF THE CIVIL SERVICE RE-  
TIREMENT AND DISABILITY FUND FOR  
THE FISCAL YEARS ENDED JUNE 30, 1951  
AND JUNE 30, 1952 25X1X8



UNITED STATES  
GOVERNMENT PRINTING OFFICE  
WASHINGTON : 1954

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25X1X8

**HOUSE RESOLUTION 423**

IN THE HOUSE OF REPRESENTATIVES,  
*January 27, 1954.*

That there be printed as a House document the Thirty-second Annual Reports of the Board of Actuaries of the Retirement and Disability Fund for the fiscal years 1951, and June 30, 1952.

**LETTER OF SUBMITTAL**

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NEW YORK CITY, *May 23, 1952.*

UNITED STATES CIVIL SERVICE COMMISSION,  
*Washington, D. C.*

LADIES AND GENTLEMEN: The Board of Actuaries, appointed under section 16 of the act of May 22, 1920, for the retirement of employees in the civil service of the United States, has the honor to submit herewith its 31st annual report on the operation of the fund.

In accordance with the practice of the Board in the past, the report gives a statement of the appropriation required of the Government under the Retirement Act, as amended, on the basis of the estimated membership of the fund as of June 30, 1951.

Respectfully submitted.

GEO. B. BUCK,  
R. R. REAGH,  
C. W. KROLL,

*Board of Actuaries,  
Civil Service Retirement and Disability Fund.*

III

## THIRTY-FIRST ANNUAL REPORT OF THE BOARD OF ACTUARIES OF THE CIVIL SERVICE RETIREMENT AND DISABILITY FUND

The civil service retirement and disability fund was established in 1920 to furnish retirement benefits to officers and employees of the United States Government who become superannuated in governmental service, or incapacitated before attaining old age. The Retirement Act makes provision for a Board of Actuaries of the Civil Service Retirement Act and in section 16 defines the chief duties of the Board to be as follows:

\* \* \* to annually report upon the actual operations of this Act, with authority to recommend to the Civil Service Commission such changes as in their judgment may be deemed necessary to protect the public interest and maintain the system upon a sound financial basis, and they shall make a valuation of the "civil-service retirement and disability fund" at intervals of five years, or oftener if deemed necessary by the Civil Service Commission; they shall also prepare such tables as may be required by the Civil Service Commission for the purpose of computing annuities under this Act. \* \* \*

This report, which has been prepared as of June 30, 1951, is the 31st annual report of the Board of Actuaries. The report gives first a summary of the main benefit and contribution provisions of the act as amended to June 30, 1951. Then statements are included regarding the active and retired membership. Next the estimated appropriation recommended for payment by the Government on the basis of the estimated membership as of June 30, 1951, is given. This is followed by a statement giving the results of a valuation of the liabilities of the fund on account of annuities in force on the roll as of June 30, 1951. Finally a brief account of the mortality experience of annuitants for the past year is given, together with certain comments by the Board on the past year's operations.

### SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS OF THE CIVIL SERVICE RETIREMENT AND DISABILITY FUND

There were no amendments made during the past year which affect the main benefit and contribution provisions of the fund. The following summary states the main benefit and contribution provisions of the act, as they were interpreted by the Board of Actuaries.

#### BENEFITS

##### *Service retirement*

*Condition for eligibility.*<sup>1</sup>—Retirement is compulsory at age 70 after 15 years of service.

Retirement is permissible at the option of the employee at age 60 after 30 years of service or at age 62 after 15 years of service.

<sup>1</sup> Certain employees who have rendered 20 years of service in the investigation, apprehension, or detention of persons suspected or convicted of offenses against the criminal laws of the United States are eligible to retire after age 50 and receive an annuity of 2 percent of average basic salary for any 5 consecutive years multiplied by the number of years of service not exceeding 30 years.

At the option of the employee at age 55 after 30 years of service or upon involuntary separation not due to misconduct or delinquency after 25 years of service, an immediate annuity is payable equal to the regular annuity reduced by one-quarter percent for each month the employee is under age 60.

*Amount of benefit.*<sup>2</sup>—The annuity is determined by 1 of 2 plans, whichever provides the larger benefit:

Plan I. An annuity equal to 1½ percent of average annual basic salary<sup>3</sup> for each year of service but no such annuity is to exceed 80 percent of average annual basic salary.<sup>3</sup>

Plan II. An annuity equal to 1 percent of average annual basic salary<sup>3</sup> plus \$25 for each year of service, but no such annuity is to exceed 80 percent of average annual basic salary.<sup>3</sup>

#### *Disability retirement*

*Condition for eligibility.*—Retirement is permissible upon disability after 5 years of civilian service.

*Amount of benefit.*—The benefit is determined by the same method as used for service retirement.

Any compensation for disability paid from the United States employees' compensation fund is deducted from the annuity benefit payable on account of the same disability.

#### *Discontinued service retirement*

*Condition for eligibility.*—Upon separation from service after 5 or more years of civilian service, a deferred annuity is payable.

*Amount of benefit.*—The deferred annuity begins at age 62 or at age of separation, if later, and is computed by the same method as the regular annuity but without choice of a joint and survivorship option.

If the employee has less than 20 years of civilian service, he may elect to receive his contributions with interest at 4 percent to December 31, 1947, and 3 percent thereafter to date of separation in lieu of the deferred annuity.

#### *Return of contributions upon withdrawal from active service*

Return of total contributions is made upon withdrawal from active service before 5 years of civilian service. Interest at 4 percent to December 31, 1947, and at 3 percent thereafter is allowed if service is in excess of 1 year.

#### *Return of contributions on death before retirement*

On death before 5 years of civilian service or after 5 years of civilian service when there is no survivor entitled to an annuity, return of total contributions is made with interest at 4 percent to December 31, 1947, and 3 percent thereafter to date of death of the employee.

#### *Return of contributions on death before commencement of payment under a deferred annuity*

Return of total contributions is made upon death before commencement of deferred annuity. (Interest is allowed at 4 percent to December 31, 1947, or to date of separation, whichever is earlier, and 3 percent thereafter to date of death.)

<sup>2</sup> An additional annuity of \$36 for each year of certain specified service in Alaska or on the Isthmus of Panama is allowed officers and employees who are citizens of the United States.

<sup>3</sup> "Average annual basic salary" is used to denote the average annual basic salary received by the employee during any 5 consecutive years of allowable service at the option of the employee.

*Return of contributions upon death after retirement*

Upon death before the payments of the annuity amount to contributions (with interest at 4 percent to December 31, 1947, and 3 percent thereafter to date of retirement) the difference is paid, unless there is a survivor entitled to an annuity.

*Annuities to dependents upon death in active service*

*Condition for eligibility.*—Annuities to dependents are paid upon death of an employee in active service after 5 years of civilian service.

*Amount of benefit.*—(a) If survived by a widow, an annuity beginning the first of the month following the death of the employee or widow's attainment of age 50, whichever later, equal to one-half regular annuity is payable to the widow until death or remarriage.

(b) If survived by a widow and a child or children, in addition to (a), an immediate annuity equal to one-half regular annuity to the employee is payable to the widow until death, remarriage, or attainment of age 50. Also an immediate annuity equal to one-fourth of the regular annuity, not in excess of \$900 divided by the number of children, or \$360, whichever is lesser, is payable to each child.

The annuity payable to a child is terminated upon attainment of age 18, marriage, or death, whichever is earlier.

(c) If survived by a child or children and there is no widow or widower, an immediate annuity equal to one-half regular service annuity, not in excess of \$1,200 divided by the number of children, or \$480, whichever is lesser, is payable to each child until attainment of age 18, marriage, or death, whichever is earlier.

Upon death of the widow, the annuity payable under (b) to a child or children is recomputed and paid as provided in (c).

Upon termination of the annuity of a child, the annuities to other children are recomputed as though the child whose annuity was terminated had not survived the employee.

*Optional benefits*

At retirement a married employee may elect to receive in lieu of his or her regular annuity a reduced annuity payable during the employee's life and an annuity payable to the surviving widow or widower equal to 50 percent of the regular annuity before reduction. The annuity to the survivor commences upon the employee's death or the survivor's attainment of age 50, whichever is later, and ceases upon death or remarriage. The reduction in the employee's annuity is 5 percent of so much of the regular annuity as does not exceed \$1,500, plus 10 percent of any excess over \$1,500, plus three-fourths of 1 percent for each year the spouse lacks of being age 60 at the date of retirement, but in no case shall the reduced annuity be less than 75 percent of such regular annuity.

At service retirement any unmarried employee in good health may elect to receive in lieu of his regular annuity a reduced annuity payable during his life and an annuity payable after his death to a survivor annuitant equal to 50 percent of such reduced annuity and, upon death of a survivor annuitant, all payments cease. The annuity payable to the employee is as follows: 90 percent of life annuity if survivor is same age or older or is less than 5 years younger than annuitant; 85 percent of life annuity if survivor is 5 but less than 10 years younger than annuitant; 80 percent of life annuity if survivor

is 10 but less than 15 years younger than annuitant; 75 percent of life annuity if survivor is 15 but less than 20 years younger than annuitant; 70 percent of life annuity if survivor is 20 but less than 25 years younger than annuitant; 60 percent of life annuity if survivor is 25 or more years younger than annuitant.

*Annuities to dependents upon death after retirement*

Benefits to widows with children and to children upon death of annuitants are similar to those payable upon death of employee in active service, except that benefits are based on regular annuity paid to annuitant and the annuity payable to the widow with a child or children terminates upon death, remarriage, or attainment of age 50, unless an optional benefit was selected by annuitant. No benefits are payable to dependents of annuitants retired on account of discontinued service.

*Benefits to annuitants retired prior to April 1, 1948*

Benefits to annuitants retired prior to April 1, 1948, were increased by 25 percent or by \$300, whichever was less, provided any such annuitant could, prior to April 1, 1948, elect to retain his or her present annuity in lieu of the increased annuity and provide that one-half of such present annuity, but not to exceed \$600, be continued to his wife or her husband until death. Effective September 1, 1950, the annuities of those who in 1948 elected survivor benefits were increased as stated above. Survivor benefits, as previously described, were granted those who in 1948 elected the increase, applicable in any case where death occurs after April 30, 1948, but no survivor annuity was payable for any period prior to September 1, 1950.

No change was made in deferred annuities payable to employees separated from service prior to April 1, 1948.

CONTRIBUTIONS

*By employees*

Employees pay 6 percent of salary commencing July 1, 1948.

Any employee may at his option and under regulations prescribed by the Civil Service Commission deposit additional sums in multiples of \$25 but not to exceed 10 percent of his annual salary for service rendered since August 1, 1920, for the purchase of an additional annuity.

*By Government*

Annual appropriations required in addition to employees' contributions to support the plan are to be made by the Government.

ESTIMATED ACTIVE MEMBERSHIP AS OF JUNE 30, 1951

The active membership of the fund as of June 30, 1951, was estimated by the Civil Service Commission to consist of 1,767,000 employees with an annual payroll of \$6,723,435,000.

ANNUITANTS ON THE ROLL AS OF JUNE 30, 1951

The following table summarizes the number and amount of annuities in force on June 30, 1951, classified according to cause of retirement for each sex, as shown by the records of annuitants maintained

by the Civil Service Commission. On pages 10 to 15 of this report, the distributions of the number and annuities of annuitants on the roll as of June 30, 1951, are given for each sex according to ages as of that date. The tabulations show survivors of deceased employees and survivors of deceased annuitants separately.

TABLE 1.—The number and annuities of annuitants on the roll June 30, 1951

Group	Regular annuities		Voluntary annuities		Total annuities
	Number	Amount	Number	Amount	
Retired on account of age and voluntary and involuntary separation:					
Men.....	102,892	\$130,276,396	1,552	\$436,514	\$130,712,910
Women.....	17,353	18,839,067	508	80,806	18,925,873
Total.....	120,745	149,115,463	2,060	523,320	149,638,783
Retired on account of disability:					
Men.....	35,493	33,997,909	285	43,148	34,041,057
Women.....	10,472	9,124,765	126	14,088	9,138,853
Total.....	45,935	43,122,674	411	57,236	43,179,910
Survivors of deceased employees:					
Widows under sec. 12 (c) (1).....	6,835	3,994,424			3,994,424
Widows under sec. 12 (c) (2).....	2,865	1,220,040			1,220,040
Children under secs. 12 (c) (2) and (3).....	6,342	1,192,116			1,192,116
Total.....	16,042	6,406,580			6,406,580
Survivors of deceased annuitants: <sup>1</sup>					
Widows under sec. 12 (c) (2).....	291	140,664			140,664
Widows other than under sec. 12 (c) (2).....	13,039	6,577,773			6,577,773
Children under secs. 12 (c) (2) and (3).....	759	164,138			164,138
All others:					
Men.....	288	92,944			92,944
Women.....	49	20,325			20,325
Total.....	14,426	6,995,844			6,995,844
Grand total.....	197,148	205,640,561	2,471	580,556	206,221,117

<sup>1</sup> Includes voluntary annuities continued to survivors.

#### COST OF BENEFITS PAYABLE UNDER FUND

Each employee pays 6 percent of his compensation into the fund. The amounts so contributed are credited to the employee's individual account and, if he leaves service or dies before he has completed 5 years of civilian service, his total credits with interest are returned to him or to his beneficiary. If an employee leaves service after completing 5 years but before 20 years of civilian service, he may elect to have his contributions returned to him with interest, or, in lieu thereof, he may apply for a deferred annuity beginning at age 62 computed by the same method as a regular annuity but without choice of a joint and survivorship option. If he leaves after 20 years of civilian service, he is paid a deferred annuity beginning at age 62 computed by the same method as a regular annuity but without choice of a joint and survivorship option. When the employee qualifies for retirement, he receives the stipulated retirement allowance based on his service and salary and if he dies before the payments of this allowance are equal to his contributions with interest to the retirement date, the balance is paid to his beneficiary or estate unless there are survivors entitled to an annuity.



The Retirement Act does not set a definite percentage contribution rate to be paid by the Government but provides that an estimate of the appropriation necessary to finance the fund be submitted each year to the Bureau of the Budget. Two annual contributions are payable to the fund, namely, a "normal" contribution and a "deficiency" contribution. The normal contribution rate is the average percentage of the salaries of all new employees that is required to be paid into the fund from the time they enter service until they leave service in order to accumulate sufficient funds to pay their benefits. Part of this normal contribution is met by the employees' contributions and the remainder represents the normal contribution rate of the Government. The deficiency contribution is required because at the time of the establishment of the fund, employees then in service were given credit for their prior service during which no contributions had been made by the Government. Therefore, there was an accrued liability or deficiency to be met by the Government at that time. Further increases in the deficiency have come about through changes in the benefit provisions, through the addition of new groups of employees to whom credit for service rendered prior to their admission was allowed, and through the fact that the Government's appropriations have not been sufficient to meet the current costs of the fund.

#### ANNUAL APPROPRIATIONS OF GOVERNMENT ON BASIS OF ESTIMATED PAYROLL AS OF JUNE 30, 1951

In accordance with the procedure followed in previous reports, the Board has prepared the following statement as of June 30, 1951, which gives an estimate of the appropriation required of the Government on the basis of the estimated payroll of the membership as of that date. The estimate is based on the cost of the amended act as prepared by the Board of Actuaries in cooperation with the Civil Service Commission.

TABLE 2.—Estimated annual contributions required to support the Civil Service Retirement and Disability Fund prepared as of June 30, 1951

Contribution	Normal cost as—		Deficiency cost as—		Total cost as—	
	Percent- age of payroll	Annual amount	Percent- age of payroll	Annual amount	Percent- age of payroll	Annual amount
Total.....	8.78	\$590,317,593	2.90	\$194,979,615	11.68	\$785,297,208
Payable by employees.....	6.00	403,406,100			6.00	403,406,100
Payable by Government.....	2.78	186,911,493	2.90	194,979,615	5.68	381,891,108

The preceding table shows the normal cost to support the benefits accruing on account of current service to be equivalent to 8.78 percent of payroll. The employees contribute 6 percent toward the normal cost and, therefore, there remains 2.78 percent to be paid by the Government. On the basis of the estimated payroll as of June 30, 1951, this represents an annual payment of \$186,911,493. The deficiency cost, or the annual cost due to the accrued liability, is shown by the table to be \$194,979,615. This entire deficiency contribution is a

## CIVIL SERVICE RETIREMENT AND DISABILITY FUND

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liability of the Government. Therefore, the total annual contribution recommended for payment by the Government on the basis of the estimated payroll as of June 30, 1951, is \$381,891,108. The actual appropriation for the fiscal year 1952 was approximately \$313,500,000.

The normal percentage rate of contribution of 2.78 percent was developed on the basis of the valuation as of September 30, 1947, prepared by the Civil Service Commission, with an adjustment estimated to cover the increased cost due to the optional benefits as amended by Public Law 310, effective September 30, 1949. The deficiency rate of 2.90 percent represents the percentage of payroll as of June 30, 1951, which produces 4 percent interest on the estimated deficiency as of that date. This is the minimum payment which will keep the principal amount of deficiency from increasing. The amount of annual deficiency payment is greater than that shown in last year's report because the payment made during the year was less than interest at 4 percent on the deficiency. Hence the deficiency increased during the year so that a larger payment is needed for the current year to provide the accruing interest. The percentage rate of payment of 2.90 percent is less than the corresponding rate last year because the payroll of members to which the rate is applied has increased with the result that a lower percentage of payroll will meet the minimum payment.

LIABILITIES OF FUND ON ACCOUNT OF ANNUITANTS ON THE ROLL AS  
OF JUNE 30, 1951

A valuation of the liabilities of the fund on account of annuitants on the roll as of June 30, 1951, was prepared and the results of the valuation are summarized in table 3 below. The mortality tables used for the valuation were those used in the quinquennial valuation made as of June 30, 1940. These tables are given in the 22d annual report of the Board and therefore have not been reproduced in this report.

TABLE 3.—Liabilities on account of annuitants as of June 30, 1951

Group	Present value of benefits to annuitants on the roll		
	Regular annuities	Voluntary annuities	Total annuities
Retired on account of age and voluntary and involuntary separation.....	\$1,217,820,360	\$4,992,482	\$1,222,812,842
Retired on account of disability.....	438,131,583	651,672	438,783,255
Reversionary annuities to designated beneficiaries <sup>1</sup> .....	201,873,391	.....	201,873,391
Survivorship annuities <sup>1</sup> .....	152,582,170	.....	152,582,170
Total.....	2,010,407,504	5,644,154	2,016,051,658

<sup>1</sup> Includes voluntary annuities.

In the 30th annual report of the Board, the liabilities on account of annuities payable to annuitants on the roll as of June 30, 1950, were shown to be \$1,780,220,393, as compared with \$2,016,051,658 as of June 30, 1951, or an increase in liabilities of nearly \$236 million during the last year.

## CIVIL SERVICE RETIREMENT AND DISABILITY FUND

SUMMARY OF MORTALITY EXPERIENCE OF ANNUITANTS FOR THE YEAR  
ENDED JUNE 30, 1951

For the purpose of making a check of the mortality tables for annuitants, the actual and expected number of deaths and of annuities canceled by death during the past year were prepared separately for men and women who had retired on account of age, voluntary and involuntary separation from service, and for men and women who had retired on account of disability. The following table summarizes the results of the comparison.

TABLE 4.—Summary of the comparisons of the actual and expected deaths among annuitants, July 1, 1950, to June 30, 1951

Group	Number of deaths			Annuities terminated by deaths		
	Actual	Expected	Difference	Actual	Expected	Difference
Employee annuitants retired on account of age, voluntary and involuntary separation:						
Men.....	5,448	5,492.0	+44.0	\$6,967,308	\$7,015,541	+\$48,233
Women.....	511	641.0	+130.0	517,925	663,680	+145,755
Employee annuitants retired on account of disability: <sup>1</sup>						
Men.....	2,286	1,502.0	-784.0	2,186,948	1,400,139	-786,809
Women.....	403	337.0	-66.0	340,243	284,526	-55,717

<sup>1</sup> The expected cases of disability are calculated on an aggregate rather than a select table, which tends to show a more favorable experience than would be indicated if select tables were used, due to the sizable increase in the number of annuitants in recent years. However, the last test of the mortality of deceased annuitants indicated that the difference in mortality by duration did not, in the opinion of the board, justify the use of select tables.

A check of the mortality tables used for widows was also prepared this year. The following table summarizes the comparison.

TABLE 5.—Summary of the comparisons of the actual and expected deaths among survivor annuitants July 1, 1950, to June 30, 1951

Group	Number of deaths			Annuities terminated by deaths		
	Actual	Expected	Difference	Actual	Expected	Difference
Widows under secs. 12 (c) (1)						
12 (c) (2).....	78	102.6	+24.6	\$46,944	\$57,605	+\$10,661
Widows under sec. 4 (b).....	19	20.3	+1.3	13,188	17,376	+4,188
Widows under sec. 8.....	256	269.8	+13.8	130,216	131,429	+1,213
Total.....	353	392.7	+39.7	190,348	206,410	+16,062

## COMMENTS ON ANNUITANTS' EXPERIENCE

The actual experience of annuitants during the year ended June 30, 1951, has been compared with the experience of previous years and the following points noted.

In general, the actual experience of annuitants during the year ended June 30, 1951, followed the trend of previous years. In the case of pensioners retired on account of age or voluntary separation, the actual death rates are proving less than the expected rates. In the case of men, the actual number and annuities canceled by death were only slightly under the expected, and there was very little change over that shown last year in the deviation of actual experience from the expected. However, in the case of women, the departure of the actual

CIVIL SERVICE RETIREMENT AND DISABILITY FUND

experience from the expected was more pronounced, and the difference was more marked in the year ended June 30, 1951, than in the previous year, indicating a decreasing rate of mortality among women. The experience to date indicates that more conservative mortality tables will probably be required for service pensioners.

With respect to employees retired on account of disability, the actual deaths during the past year exceeded the expected deaths and the actual annuities terminated by death exceeded the expected annuities by a wide margin. This condition is consistent with past experience.

The actual deaths among widows and the annuities canceled by death were less than expected during the past year. However, the experience to date for widows is limited, and no conclusions can be reached regarding the use of the present tables until more experience has accumulated.

CONCLUSION

During the past year there was no legislation adopted which affected the general structure of the retirement system. However, certain amendments proposed under Senate bill 995, 82d Congress, have been under consideration, and under date of July 11, 1951, the Board of Actuaries prepared a report giving an estimate of the cost of the proposed amendments and commenting on the provisions of the bill. The Board has been particularly concerned with the provision of the proposed bill which would change the method of financing the fund from the reserve method heretofore followed. Under the present method, the Board determines each year the appropriation needed to support the fund on a sound reserve basis as described on pages 5 and 6 of this report. Under the method proposed, the annual appropriation would be the amount needed each year to make the balance in the fund equal to the sum of the total deductions and deposits in the fund for persons not retired plus the total present value of all future payments to persons then on the retirement roll. This would mean that the liabilities to be met by the Government on account of active members would not be covered as they rendered the service that gives rise to such liabilities, but would be deferred to be met by future generations of taxpayers or by a reduction in annuities should appropriations not be made to pay them.

The Board is glad to report that the Civil Service Commission supports its viewpoint that the standard full reserve method of financing should be employed. Under the reserve method the true cost of benefits is taken into account and provision made for meeting the cost during the active service of the members. When the Retirement Act is amended to liberalize benefits, the cost of the new benefits is immediately reflected in the appropriations required for the support of the fund if the full reserve method of financing is used. The Congress then knows to what extent it is committing taxpayers to pay for benefits and employees know that present assets are not being dissipated so as to impair the payment of their future annuities. The reserve method is used by the majority of sound retirement plans for governmental employees in the various States, and it has been proved to offer the best protection both to members and to taxpayers. To members it gives assurance that their benefits will be paid when due and to taxpayers it gives assurance that no amendments are adopted which carry a concealed cost to be met at some later date.

The quinquennial valuation of the system is due in 1952 but will probably have to be postponed because an appropriation to cover the

expenses of the valuation has not been made. The intent of the law is that an actuarial valuation of the fund should be made at least once in every 5-year period and oftener if deemed necessary by the Civil Service Commission. The Board feels that a valuation should be made in 1952 or as soon thereafter as the data can be collected. So many changes affecting the membership and their compensation have taken place since 1947 when the last valuation was made that it would seem that the Congress would want to have the results of an actuarial valuation to furnish the facts on which to base sound business judgment in considering the various changes in the act which are proposed.

The Board is advising with the Civil Service Commission in regard to the establishment of a central record system for the fund. As stated in previous reports, the establishment of a central record system is believed to be very important. It does not appear appropriate for the United States Government to maintain its own retirement system without adequate records, when it requires such records for private funds as a basis for obtaining Treasury approval for tax purposes. The Government should operate its own system with as much precision as similar funds in the various States and cities of the country are operated.

#### SUMMARY OF TABULATIONS OF ANNUITANTS' DATA

The following tables give the number of annuitants and their annuities as of June 30, 1951, distributed by age for men and women separately, which were used as a basis for the valuation.

TABLE 6.—The number and regular annuities of annuitants on the roll, classified by sex and age as of June 30, 1951—retired on account of age and voluntary and involuntary separations

Age	Men		Women		Age	Men		Women	
	Num-ber	Annuities	Num-ber	Annuities		Num-ber	Annuities	Num-ber	Annuities
41.....	2	\$372			74.....	4,543	\$5,897,016	726	\$775,089
42.....					75.....	4,353	5,579,527	691	731,377
43.....					76.....	3,681	4,703,893	585	595,439
44.....	1	732	1	\$1,392	77.....	3,135	3,933,710	510	518,358
45.....	9	5,640	1	804	78.....	2,604	3,341,340	400	428,562
46.....	13	9,768	3	2,340	79.....	2,386	2,933,617	377	387,044
47.....	18	12,060	5	4,440	80.....	1,881	2,402,854	269	268,679
48.....	15	8,994	5	4,368	81.....	1,648	2,101,528	259	266,848
49.....	28	21,118	10	9,192	82.....	1,354	1,733,078	219	210,559
50.....	63	48,413	18	18,922	83.....	1,075	1,339,872	182	178,709
51.....	78	94,617	28	32,277	84.....	810	1,061,099	146	135,723
52.....	77	98,457	28	35,477	85.....	624	795,382	119	116,770
53.....	94	126,598	26	37,668	86.....	471	592,699	82	78,237
54.....	94	123,180	25	32,928	87.....	373	477,626	65	62,314
55.....	222	263,042	47	56,603	88.....	294	376,298	51	45,080
56.....	661	678,054	159	194,434	89.....	213	273,645	29	27,140
57.....	848	834,407	206	220,378	90.....	147	176,584	28	27,781
58.....	1,091	1,105,434	260	296,402	91.....	111	149,701	12	14,002
59.....	1,505	1,393,232	246	276,669	92.....	78	96,984	11	11,043
60.....	1,859	1,863,148	288	329,713	93.....	44	55,272	9	9,342
61.....	2,477	3,033,321	380	494,405	94.....	27	28,691	4	4,657
62.....	3,149	3,976,082	537	650,781	95.....	17	20,823	3	2,792
63.....	4,952	5,751,655	960	980,186	96.....	9	9,449	3	2,546
64.....	5,200	6,139,360	944	922,857	97.....	1	1,425		
65.....	5,619	6,681,809	1,057	1,070,288	98.....	5	5,580		
66.....	5,248	6,482,066	1,028	1,041,468	99.....	1	5,598		
67.....	5,658	7,185,988	1,048	1,048,177	100.....	4	3,221		
68.....	5,478	7,168,854	1,023	1,050,320	101.....	1	754		
69.....	5,464	7,049,100	917	948,705	102.....				
70.....	5,648	7,968,939	950	1,060,607	103.....				
71.....	6,394	9,064,747	1,028	1,132,287	104.....				
72.....	5,833	7,943,320	981	1,059,971				1	1,125
73.....	5,184	6,903,824	859	920,544	Total.	102,892	130,276,396	17,853	18,839,067

TABLE 7.—The number and voluntary annuities of annuitants on the roll, classified by sex and age as of June 30, 1951—retired on account of age and voluntary and involuntary separations

Age	Men		Women		Age	Men		Women	
	Number	Annuities	Number	Annuities		Number	Annuities	Number	Annuities
50.....			1	\$350	71.....	113	\$30,431	23	\$5,107
51.....			1	942	72.....	86	28,512	27	4,874
52.....			2	549	73.....	70	19,961	20	3,362
53.....	3	\$844			74.....	51	16,851	17	2,281
54.....	1	74			75.....	56	15,184	16	2,428
55.....	4	1,070	1	13	76.....	39	13,686	12	1,228
56.....	10	3,268	4	702	77.....	25	6,703	9	1,141
57.....	11	3,580	8	1,315	78.....	28	8,262	7	1,160
58.....	26	6,213	13	3,188	79.....	12	4,080	5	1,420
59.....	24	7,646	8	673	80.....	13	6,553	7	513
60.....	30	8,466	7	1,755	81.....	11	5,432	1	294
61.....	32	5,379	14	1,836	82.....	3	1,860		
62.....	66	13,207	18	2,345	83.....	1	97		
63.....	82	18,635	42	7,278	84.....	4	3,186		
64.....	108	31,865	25	4,923	85.....	1	214		
65.....	117	30,360	44	7,452	86.....				
66.....	106	26,772	30	5,100	87.....				
67.....	127	35,181	46	9,152	88.....				
68.....	110	33,448	39	6,869	89.....	2	1,259		
69.....	95	21,691	19	2,002	Total..	1,552	436,514	503	86,806
70.....	95	26,575	28	5,664					

TABLE 8.—The number and regular annuities of annuitants on the roll, classified by sex and age as of June 30, 1951—retired on account of disability

Age	Men		Women		Age	Men		Women	
	Number	Annuities	Number	Annuities		Number	Annuities	Number	Annuities
24.....	2	\$444			63.....	1,713	\$1,682,115	395	\$366,018
25.....	4	1,092	2	\$564	64.....	1,323	1,314,042	341	316,522
26.....	10	2,808	6	1,332	65.....	1,128	1,134,203	350	316,234
27.....	6	1,944	5	1,224	66.....	928	883,889	336	302,383
28.....	22	6,175	5	1,225	67.....	843	868,931	284	255,189
29.....	29	8,736	13	3,824	68.....	684	711,035	235	206,125
30.....	41	13,953	11	3,602	69.....	689	690,427	239	212,368
31.....	35	11,104	12	4,009	70.....	601	600,008	207	185,421
32.....	54	18,983	13	4,748	71.....	611	626,908	214	182,886
33.....	52	19,413	22	6,704	72.....	567	605,374	207	191,638
34.....	79	29,800	21	8,248	73.....	535	572,315	173	159,666
35.....	82	32,394	19	8,561	74.....	490	516,940	146	134,487
36.....	114	48,015	32	12,442	75.....	429	467,291	148	138,356
37.....	123	54,625	36	14,763	76.....	356	374,186	125	123,687
38.....	123	50,565	44	18,520	77.....	283	292,777	103	96,338
39.....	146	67,681	37	17,303	78.....	206	219,924	107	100,794
40.....	164	82,782	53	23,972	79.....	223	236,702	81	75,592
41.....	197	111,797	70	24,811	80.....	166	179,358	71	74,353
42.....	210	120,390	70	26,455	81.....	135	145,820	67	66,762
43.....	244	150,482	95	52,600	82.....	89	89,619	34	38,830
44.....	239	194,313	88	54,056	83.....	58	59,193	25	27,198
45.....	279	198,807	103	59,624	84.....	60	60,784	15	15,840
46.....	330	234,355	108	69,811	85.....	46	42,510	13	11,178
47.....	350	272,611	142	92,050	86.....	26	29,305	11	12,464
48.....	384	316,476	147	99,591	87.....	21	23,688	1	1,110
49.....	490	418,154	226	165,857	88.....	15	12,176	5	5,749
50.....	499	428,817	216	170,795	89.....	7	6,538	1	964
51.....	794	710,231	294	232,479	90.....	9	8,961	7	7,280
52.....	828	751,795	339	309,547	91.....	1	1,245	3	2,285
53.....	1,079	1,013,019	382	343,256	92.....	2	1,080		
54.....	1,282	1,203,582	351	319,707	93.....			2	1,168
55.....	1,681	1,571,784	420	384,563	94.....	1	559	1	745
56.....	1,903	1,817,922	446	419,180	95.....	2	2,725	1	1,058
57.....	1,964	1,927,821	438	413,997	96.....				
58.....	1,953	2,000,950	425	402,368	97.....			1	846
59.....	2,031	2,056,087	494	453,054	98.....				
60.....	1,811	1,903,460	471	426,013	99.....	1	283		
61.....	1,785	1,812,351	431	392,722	Total..	35,463	33,997,909	10,472	9,124,765
62.....	1,748	1,757,431	460	442,774					

CIVIL SERVICE RETIREMENT AND DISABILITY FUND

TABLE 9.—The number and voluntary annuities of annuitants on the roll, classified by sex and age as of June 30, 1951—Retired on account of disability

Age	Men		Women		Age	Men		Women	
	Number	Annuities	Number	Annuities		Number	Annuities	Number	Annuities
33	1	\$25			59	17	\$5,023	14	\$2,212
34					60	22	3,391	6	168
35					61	17	2,649	3	169
36	1	3			62	22	3,129	13	1,064
37	1	14			63	16	1,891	5	506
38			1	\$16	64	12	1,801	6	734
39	1	173			65	9	1,444	5	523
40					66	10	1,036	6	580
41	2	59			67	6	950	2	707
42					68	4	224	3	129
43	3	152			69	7	1,922	3	667
44	2	208			70	5	1,035	6	1,106
45	4	303	1	3	71	2	138	4	355
46	6	608			72	2	459	2	115
47	5	508	1	11	73	3	434	3	479
48	2	209	1	101	74	4	277	2	60
49	2	195			75	3	1,820	1	44
50	2	322	3	27	76	3	406		
51	5	858	1	40	77	3	832		
52	7	630	5	507	78	1	60	1	117
53	8	949	4	277	79				
54	5	640	2	257	80				
55	11	1,755	5	422	81			1	61
56	17	1,025	5	756					
57	16	2,096	7	1,195					
58	16	3,736	4	680					
					Total	285	43,148	126	14,088

TABLE 10.—The number and annuities of survivor annuitants on the roll, classified by age as of June 30, 1951, survivors of deceased employees

CHILDREN

Age	Number	Annuities	Age	Number	Annuities
Under 6 months	20	\$3,228	23 years	5	\$960
1 year	60	9,000	24 years	11	3,156
2 years	119	15,900	25 years	6	1,176
3 years	199	27,552	26 years	8	2,448
4 years	257	38,304	27 years	5	1,116
5 years	249	40,860	28 years	10	1,488
6 years	275	42,612	29 years	8	1,824
7 years	299	48,240	30 years	3	816
8 years	319	52,428	31 years	4	1,032
9 years	358	61,848	32 years	2	528
10 years	358	65,604	33 years	6	1,596
11 years	390	73,212	34 years	3	636
12 years	406	80,016	35 years	5	1,380
13 years	433	84,504	36 years	5	1,308
14 years	499	96,588	37 years	1	312
15 years	547	116,890	38 years	3	636
16 years	564	117,996	39 years	4	1,176
17 years	611	135,708	40 years		
18 years	262	54,188	41 years	3	960
19 years	3	504	42 years	1	120
20 years	9	2,436	43 years	2	144
21 years	3	828			
22 years	7	1,188			
			Total	6,342	1,192,116

## CIVIL SERVICE RETIREMENT AND DISABILITY FUND

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TABLE 10.—The number and annuities of survivor annuitants on the roll, classified by age as of June 30, 1951, survivors of deceased employees—Con.

## WIDOWS

Age	Number	Annuities	Age	Number	Annuities
18 years.....	2	\$420	53 years.....	577	\$298,572
19 years.....	1	348	54 years.....	462	257,172
20 years.....			55 years.....	478	262,304
21 years.....			56 years.....	493	265,380
22 years.....	2	276	57 years.....	467	289,092
23 years.....	4	1,008	58 years.....	436	249,408
24 years.....	6	1,152	59 years.....	418	259,620
25 years.....	9	3,876	60 years.....	378	230,328
26 years.....	17	2,928	61 years.....	320	202,620
27 years.....	26	4,302	62 years.....	332	217,260
28 years.....	29	7,044	63 years.....	300	190,860
29 years.....	26	6,168	64 years.....	197	125,484
30 years.....	32	8,508	65 years.....	186	113,520
31 years.....	51	12,636	66 years.....	171	111,060
32 years.....	43	11,820	67 years.....	160	104,472
33 years.....	67	20,172	68 years.....	129	87,048
34 years.....	61	16,404	69 years.....	104	56,748
35 years.....	72	22,752	70 years.....	87	53,256
36 years.....	98	31,128	71 years.....	79	47,268
37 years.....	111	37,452	72 years.....	58	29,568
38 years.....	102	36,408	73 years.....	50	26,724
39 years.....	128	47,124	74 years.....	36	19,632
40 years.....	132	52,272	75 years.....	20	8,160
41 years.....	133	68,536	76 years.....	11	3,804
42 years.....	151	68,208	77 years.....	9	5,640
43 years.....	160	71,436	78 years.....	7	1,644
44 years.....	169	80,100	79 years.....	1	120
45 years.....	170	84,000	80 years.....	2	300
46 years.....	180	85,908	81 years.....	2	864
47 years.....	183	91,656	82 years.....	3	1,500
48 years.....	179	91,044	83 years.....	1	2,748
49 years.....	145	80,700	84 years.....	1	144
50 years.....	246	135,264	85 years.....	1	264
51 years.....	498	259,128			
52 years.....	501	261,612			
			Total.....	9,700	5,214,464

TABLE 11.—The number and annuities of survivor annuitants on the roll, classified by age as of June 30, 1951—Survivors of deceased annuitants<sup>1</sup>

## CHILDREN

Age	Number	Annuities	Age	Number	Annuities
1.....	3	\$288	18.....	49	\$12,780
2.....	7	1,284	19.....	2	708
3.....	10	1,440	20.....	2	372
4.....	20	3,348	21.....	1	96
5.....	33	6,312	22.....	2	720
6.....	27	5,124	23.....	2	216
7.....	38	7,548	24.....	2	672
8.....	33	6,732	25.....	2	672
9.....	46	8,628	26.....	3	1,032
10.....	42	9,288	27.....	1	360
11.....	52	9,679	28.....	2	720
12.....	37	7,404	29.....	1	228
13.....	52	11,047	30.....	2	540
14.....	63	15,252	31.....	1	360
15.....	67	14,844	32.....	1	84
16.....	75	17,940	33.....	1	480
17.....	82	18,612			
			Total.....	759	164,138

<sup>1</sup>Includes voluntary annuities continued to survivors.



## CIVIL SERVICE RETIREMENT AND DISABILITY FUND

TABLE 11.—The number and annuities of survivor annuitants on the roll classified by age as of June 30, 1951—Survivors of deceased annuitants<sup>1</sup>—Continued

## WIDOWS UNDER SEC. 12 (c) (2)

Age	Number	Annuities	Age	Number	Annuities
25.....	2	\$444	42.....	13	\$5,572
29.....	1	180	43.....	13	6,420
30.....	1	276	44.....	23	11,825
31.....	4	1,116	45.....	11	5,496
32.....	4	1,668	46.....	18	9,228
33.....	7	2,592	47.....	29	15,336
34.....	7	2,255	48.....	24	13,927
35.....	14	6,816	49.....	25	13,584
36.....	7	4,953	50.....	11	5,796
37.....	9	4,032	51.....	7	6,000
38.....	11	3,132	52.....	3	1,524
39.....	17	5,964			
40.....	10	4,380	Total.....	291	140,664
41.....	20	8,148			

## WIDOWS OTHER THAN UNDER SEC. 12 (c) (2)

22.....	1	\$435	62.....	457	\$239,373
25.....	1	127	63.....	491	265,722
29.....	2	255	64.....	459	252,057
30.....	2	380	65.....	525	292,828
31.....	4	950	66.....	525	294,382
32.....	5	1,409	67.....	617	336,550
33.....	4	1,076	68.....	530	236,182
34.....	6	1,688	69.....	513	267,268
35.....	13	3,911	70.....	470	245,670
36.....	15	3,364	71.....	510	262,533
37.....	17	5,919	72.....	461	246,373
38.....	20	6,437	73.....	451	228,448
39.....	27	7,742	74.....	436	228,580
40.....	24	8,179	75.....	423	217,116
41.....	35	10,719	76.....	336	161,173
42.....	44	16,495	77.....	300	149,771
43.....	54	21,072	78.....	245	130,301
44.....	51	15,700	79.....	243	120,136
45.....	53	16,959	80.....	183	92,794
46.....	76	27,848	81.....	136	66,165
47.....	77	29,670	82.....	107	49,538
48.....	103	39,979	83.....	94	45,180
49.....	94	33,574	84.....	63	30,954
50.....	130	51,882	85.....	45	21,628
51.....	219	94,842	86.....	39	16,697
52.....	212	95,980	87.....	23	10,954
53.....	243	115,425	88.....	14	7,098
54.....	252	113,966	89.....	10	4,618
55.....	268	126,106	90.....	3	1,800
56.....	327	162,743	91.....	4	1,766
57.....	300	150,187	92.....	3	1,093
58.....	369	181,857	93.....	2	548
59.....	369	182,091	100.....	1	241
60.....	420	227,635			
61.....	483	246,634	Total.....	13,039	6,577,773

<sup>1</sup> Includes voluntary annuities continued to survivors.

## CIVIL SERVICE RETIREMENT AND DISABILITY FUND

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TABLE 11.—The number and annuities of survivor annuitants on the roll classified by age as of June 30, 1951—Survivors of deceased annuitants<sup>1</sup>—Continued

## ALL OTHERS

Age	Men		Women		Age	Men		Women	
	Num- ber	Annuities	Num- ber	Annuities		Num- ber	Annuities	Num- ber	Annuities
19.....	1	\$518			63.....	7	\$2,243	1	\$1,160
22.....	1	26			64.....	4	1,151	1	322
27.....	1	137			65.....	8	3,268	1	324
28.....			1	\$612	66.....	7	1,839		
31.....			1	237	67.....	8	2,910	1	794
33.....			1	164	68.....	9	2,345	2	1,812
36.....	1	388	1	81	69.....	5	1,487	3	3,240
37.....	1	91			70.....	6	1,894		
38.....			2	644	71.....	16	5,294	1	387
39.....	2	328	2	444	72.....	14	5,090		
40.....	3	492	1	344	73.....	3	1,221	1	399
41.....	1	553	2	1,313	74.....	11	3,982	1	278
42.....	3	618	1	28	75.....	8	2,805		
43.....	1	147	1	225	76.....	10	3,078		
44.....	2	1,795			77.....	8	2,253	1	384
45.....	3	786	1	1,303	78.....	9	2,918		
46.....	1	498	1	216	79.....	6	1,127		
47.....	2	463	2	618	80.....	6	1,901		
48.....	2	261	1	117	81.....	7	1,584		
49.....	1	447			82.....	4	1,930		
50.....	6	886	1	576	83.....	7	3,056		
51.....	1	195	1	68	84.....	1	331	1	155
52.....	5	1,785			85.....	3	869		
53.....	3	638	1	181	86.....	1	596		
54.....	3	678	2	421	87.....	1	342		
55.....	4	1,640	1	64	88.....	1	39		
56.....	10	3,211	1	969	89.....	2	877		
57.....	11	3,347	1	142	90.....	1	315		
58.....	11	4,086	2	364	91.....	1	270		
59.....	8	1,907	4	1,239	92.....	1	308		
60.....	5	1,817	1	428	93.....	1	37		
61.....	10	3,613			Total..	288	92,944	49	20,325
62.....	9	3,205	2	282					

<sup>1</sup> Includes voluntary annuities continued to survivors.

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THIRTY-SECOND ANNUAL REPORT OF THE BOARD  
OF ACTUARIES OF THE CIVIL SERVICE  
RETIREMENT AND DISABILITY FUND

AS OF JUNE 30, 1952

**LETTER OF SUBMITTAL**

NEW YORK CITY, *July 29, 1953.*  
UNITED STATES CIVIL SERVICE COMMISSION,  
*Washington, D. C.*

LADIES AND GENTLEMEN: The Board of Actuaries appointed under section 16 of the act of May 22, 1920, for the retirement of employees in the civil service of the United States, has the honor to submit herewith its 32d annual report on the operation of the fund.

In accordance with the practice of the Board in the past, the report gives a statement of the appropriation required of the Government under the Retirement Act, as amended, on the basis of the estimated membership of the fund as of June 30, 1952.

Respectfully submitted.

GEO. B. BUCK,  
R. R. REAGH,  
JOHN P. JONES,  
*Board of Actuaries, Civil Service Retirement and Disability Fund.*

## THIRTY-SECOND ANNUAL REPORT OF THE BOARD OF ACTUARIES OF THE CIVIL SERVICE RETIREMENT AND DISABILITY FUND

The civil service retirement and disability fund was established in 1920 to furnish retirement benefits to officers and employees of the United States Government who become superannuated in governmental service, or incapacitated before attaining old age. The Retirement Act makes provision for a Board of Actuaries of the Civil Service Retirement Act and in section 16 defines the chief duties of the Board to be as follows:

\* \* \* to annually report upon the actual operations of this Act, with authority to recommend to the Civil Service Commission such changes as in their judgment may be deemed necessary to protect the public interest and maintain the system upon a sound financial basis, and they shall make a valuation of the "civil-service retirement and disability fund" at intervals of five years, or oftener if deemed necessary by the Civil Service Commission; they shall also prepare such tables as may be required by the Civil Service Commission for the purpose of computing annuities under this Act \* \* \*

This report, which has been prepared as of June 30, 1952, is the 32d annual report of the Board of Actuaries. The report gives first a summary of the main benefit and contribution provisions of the act as amended to June 30, 1952. Then statements are included regarding the active and retired membership. Next the estimated appropriation recommended for payment by the Government on the basis of the estimated membership as of June 30, 1952, is given. This is followed by statements giving the results of a valuation of the liabilities of the fund on account of annuities in force on the roll as of June 30, 1952, and the results of the mortality experience of annuitants for the past year. In conclusion the Board gives certain comments on the history of the fund and its financial operation.

### SUMMARY OF BENEFIT AND CONTRIBUTION PROVISIONS OF THE CIVIL SERVICE RETIREMENT AND DISABILITY FUND

The retirement act was amended as of July 16, 1952, to provide temporary increases in annuities for persons then receiving or entitled to receive annuities. The increases will terminate not later than June 30, 1955, and their payment until that date is contingent upon the receipt of special appropriations to cover the amount of the increase. The following summary states the main benefit and contribution provisions of the act, as they were interpreted by the Board of Actuaries.

#### BENEFITS

##### *Service retirement*

*Condition for eligibility.*<sup>1</sup>—Retirement is compulsory at age 70 after 15 years of service.

<sup>1</sup>Certain employees who have rendered 20 years of service in the investigation, apprehension, or detention of persons suspected or convicted of offenses against the criminal laws of the United States are eligible to retire after age 50 and receive an annuity of 2 percent of average basic salary for any 5 consecutive years multiplied by the number of years of service not exceeding 30 years.

Retirement is permissible at the option of the employee at age 60 after 30 years of service or at age 62 after 15 years of service.

At the option of the employee at age 55 after 30 years of service or upon involuntary separation not due to misconduct or delinquency after 25 years of service, an immediate annuity is payable equal to the regular annuity reduced by  $\frac{1}{4}$  percent for each month the employee is under age 60.

*Amount of benefit.*<sup>2</sup>—The annuity is determined by one of two plans, whichever provides the larger benefit:

Plan I. An annuity equal to  $1\frac{1}{2}$  percent of average annual basic salary<sup>3</sup> for each year of service but no such annuity is to exceed 80 percent of average annual basic salary.<sup>3</sup>

Plan II. An annuity equal to 1 percent of average annual basic salary<sup>3</sup> plus \$25 for each year of service, but no such annuity is to exceed 80 percent of average annual basic salary.<sup>3</sup>

*Disability retirement*

*Condition for eligibility.*—Retirement is permissible upon disability after 5 years of civilian service.

*Amount of benefit.*—The benefit is determined by the same method as used for service retirement.

Any compensation for disability paid from the United States employees' compensation fund is deducted from the annuity benefit payable on account of the same disability.

*Discontinued service retirement*

*Condition for eligibility.*—Upon separation from service after 5 or more years of civilian service, a deferred annuity is payable.

*Amount of benefit.*—The deferred annuity begins at age 62 or at age of separation, if later, and is computed by the same method as the regular annuity but without choice of a joint and survivorship option.

If the employee has less than 20 years of civilian service, he may elect to receive his contributions with interest at 4 percent to December 31, 1947, and 3 percent thereafter to date of separation in lieu of the deferred annuity.

*Return of contributions upon withdrawal from active service*

Return of total contributions is made upon withdrawal from active service before 5 years of civilian service. Interest at 4 percent to December 31, 1947, and at 3 percent thereafter is allowed if service is in excess of 1 year.

*Return of contributions on death before retirement*

On death before 5 years of civilian service or after 5 years of civilian service when there is no survivor entitled to an annuity, return of total contributions is made with interest at 4 percent to December 31, 1947, and 3 percent thereafter to date of death of the employee.

*Return of contributions on death before commencement of payment under a deferred annuity*

Return of total contributions is made upon death before commencement of deferred annuity. (Interest is allowed at 4 percent to December 31, 1947, or to date of separation, whichever is earlier, and 3 percent thereafter to date of death.)

<sup>2</sup> An additional annuity of \$36 for each year of certain specified service in Alaska or on the Isthmus of Panama is allowed officers and employees who are citizens of the United States.

<sup>3</sup> Average annual basic salary is used to denote the average annual basic salary received by the employee during any 5 consecutive years of allowable service at the option of the employee.

*Return of contributions upon death after retirement*

Upon death before the payments of the annuity amount to contributions (with interest at 4 percent to December 31, 1947, and 3 percent thereafter to date of retirement) the difference is paid, unless there is a survivor entitled to an annuity.

*Annuities to dependents upon death in active service*

*Condition for eligibility.*—Annuities to dependents are paid upon death of an employee in active service after 5 years of civilian service.

*Amount of benefit.*—(a) If survived by a widow, an annuity beginning the first of the month following the death of the employee or widow's attainment of age 50, whichever later, equal to one-half regular annuity is payable to the widow until death or remarriage.

(b) If survived by a widow and a child or children, in addition to (a), an immediate annuity equal to one-half regular annuity to the employee is payable to the widow until death, remarriage, or attainment of age 50. Also an immediate annuity equal to one-fourth of the regular annuity, not in excess of \$900 divided by the number of children, or \$360, whichever is lesser, is payable to each child.

The annuity payable to a child is terminated upon attainment of age 18, marriage, or death, whichever is earlier.

(c) If survived by a child or children and there is no widow or widower, an immediate annuity equal to one-half regular service annuity, not in excess of \$1,200 divided by the number of children, or \$480, whichever is lesser, is payable to each child until attainment of age 18, marriage, or death, whichever is earlier.

Upon death of the widow, the annuity payable under (b) to a child or children is recomputed and paid as provided in (c).

Upon termination of the annuity of a child, the annuities to other children are recomputed as though the child whose annuity was terminated had not survived the employee.

*Optional benefits*

At retirement a married employee may elect to receive in lieu of his or her regular annuity a reduced annuity payable during the employee's life and an annuity payable to the surviving widow or widower equal to 50 percent of the regular annuity before reduction. The annuity to the survivor commences upon the employee's death or the survivor's attainment of age 50, whichever is later, and ceases upon death or remarriage. The reduction in the employee's annuity is 5 percent of so much of the regular annuity as does not exceed \$1,500, plus 10 percent of any excess over \$1,500, plus three-fourths of 1 percent for each year the spouse lacks of being age 60 at the date of retirement, but in no case shall the reduced annuity be less than 75 percent of such regular annuity.

At service retirement any unmarried employee in good health may elect to receive in lieu of his regular annuity a reduced annuity payable during his life and an annuity payable after his death to a survivor annuitant equal to 50 percent of such reduced annuity and, upon death of a survivor annuitant, all payments cease. The annuity payable to the employee is as follows: 90 percent of life annuity if survivor is same age or older or is less than 5 years younger than annuitant; 85 percent of life annuity if survivor is 5 but less than 10 years younger than annuitant; 80 percent of life annuity if survivor

is 10 but less than 15 years younger than annuitant; 75 percent of life annuity if survivor is 15 but less than 20 years younger than annuitant; 70 percent of life annuity if survivor is 20 but less than 25 years younger than annuitant; 60 percent of life annuity if survivor is 25 or more years younger than annuitant.

*Annuities to dependents upon death after retirement*

Benefits to widows with children and to children upon death of annuitants are similar to those payable upon death of employee in active service, except that benefits are based on regular annuity paid to annuitant and the annuity payable to the widow with a child or children terminates upon death, remarriage, or attainment of age 50, unless an optional benefit was selected by annuitant. No benefits are payable to dependents of annuitants retired on account of discontinued service.

*Benefits to annuitants retired prior to April 1, 1948*

Benefits to annuitants retired prior to April 1, 1948, were increased by 25 percent or by \$300, whichever was less, provided any such annuitant could, prior to April 1, 1948, elect to retain his or her present annuity in lieu of the increased annuity and provide that one-half of such present annuity, but not to exceed \$600, be continued to his wife or her husband until death. Effective September 1, 1950, the annuities of those who in 1948 elected survivor benefits were increased as stated above. Survivor benefits, as previously described, were granted those who in 1948 elected the increase, applicable in any case where death occurs after April 30, 1948, but no survivor annuity was payable for any period prior to September 1, 1950.

No change was made in deferred annuities payable to employees separated from service prior to April 1, 1948.

CONTRIBUTIONS

*By employees*

Employees pay 6 percent of salary commencing July 1, 1948.

Any employee may at his option and under regulations prescribed by the Civil Service Commission deposit additional sums in multiples of \$25 but not to exceed 10 percent of his annual salary for service rendered since August 1, 1920, for the purchase of an additional annuity.

*By Government*

Annual appropriations required in addition to employees' contributions to support the plan are to be made by the Government.

ESTIMATED ACTIVE MEMBERSHIP AS OF JUNE 30, 1952

The active membership of the fund as of June 30, 1952, was estimated by the Civil Service Commission to consist of 1,700,000 employees with an annual payroll of \$6,468,500,000.

ANNUITANTS ON THE ROLL AS OF JUNE 30, 1952

The following table summarizes the number and amount of annuities in force on June 30, 1952, as shown by the records of annuitants maintained by the Civil Service Commission. On pages 33 to 37 of



this report, the distributions of the number and annuities of annuitants on the roll as of June 30, 1952, by age are given for men and women separately. The tabulations show survivors of deceased employees and survivors of deceased annuitants separately.

TABLE 1.—The number and annual annuities of annuitants on the roll June 30, 1952

Group	Regular annuities		Voluntary annuities		Total annuities
	Number	Amount	Number	Amount	
Retired on account of age and voluntary and involuntary separations:					
Men.....	108,293	\$141,455,004	1,747	\$503,244	\$141,958,248
Women.....	19,760	21,358,824	604	110,388	21,469,212
Total.....	128,053	162,813,828	2,351	613,632	163,427,460
Retired on account of disability:					
Men.....	37,220	36,224,820	322	52,224	36,277,044
Women.....	11,057	9,757,424	137	15,420	9,752,844
Total.....	48,277	45,982,244	459	67,644	46,029,888
Survivors of deceased employees:					
Widows under sec. 12 (c) (1).....	9,215	5,533,836			5,533,836
Widows under sec. 12 (c) (2).....	3,725	1,004,508			1,004,508
Children under secs. 12 (c) (2) and (3).....	8,107	1,537,548			1,537,548
Total.....	21,047	8,075,892			8,075,892
Survivors of deceased annuitants: <sup>1</sup>					
Widows under sec. 12 (c) (2).....	405	196,500			196,500
Widows other than under sec. 12 (c) (2).....	10,958	8,743,272			8,743,272
Children under secs. 12 (c) (2) and (3).....	1,062	228,852			228,852
All others:					
Men.....	372	120,192			120,192
Women.....	58	25,968			25,968
Total.....	18,855	9,314,784			9,314,784
Grand total.....	216,232	226,766,748	2,810	681,276	227,448,024

<sup>1</sup> Includes voluntary annuities continued to survivors.

#### COST OF BENEFITS PAYABLE UNDER FUND

Each employee pays 6 percent of his compensation into the fund. The amounts so contributed are credited to the employee's individual account and, if he leaves service or dies before he has completed 5 years of civilian service, his total credits with interest are returned to him or to his beneficiary. If an employee leaves service after completing 5 years but before 20 years of civilian service, he may elect to have his contributions returned to him with interest, or, in lieu thereof, he may apply for a deferred annuity beginning at age 62 computed by the same method as a regular annuity but without choice of a joint and survivorship option. If he leaves after 20 years of civilian service, he is paid a deferred annuity beginning at age 62 computed by the same method as a regular annuity but without choice of a joint and survivorship option. When the employee qualifies for retirement, he receives the stipulated retirement allowance based on his service and salary and if he dies before the payments of this allowance are equal to his contributions with interest to the retirement date, the balance is paid to his beneficiary or estate unless there are survivors entitled to an annuity.

The Retirement Act does not set a definite percentage contribution rate to be paid by the Government but provides that an estimate of

the appropriation necessary to finance the fund be submitted each year to the Bureau of the Budget. Two annual contributions are payable to the fund, namely, a "normal" contribution and a "deficiency" contribution. The normal contribution rate is the average percentage of the salaries of all new employees that is required to be paid into the fund from the time they enter service until they leave service in order to accumulate sufficient funds to pay their benefits. Part of this normal contribution is met by the employees' contributions and the remainder represents the normal contribution rate of the Government. The deficiency contribution is required because at the time of the establishment of the fund, employees then in service were given credit for their prior service during which no contributions had been made by the Government. Therefore, there was an accrued liability or deficiency to be met by the Government at that time. Further increases in the deficiency have come about through changes in the benefit provisions, through the addition of new groups of employees to whom credit for service rendered prior to their admission was allowed, and through the fact that in certain years since the funding policy was adopted the Government's appropriations have not been sufficient to meet the current costs of the fund.

#### ANNUAL APPROPRIATIONS OF GOVERNMENT ON BASIS OF ESTIMATED PAYROLL AS OF JUNE 30, 1952

In accordance with the procedure followed in previous reports, the Board has prepared the following statement as of June 30, 1952, which gives an estimate of the appropriation required of the Government on the basis of the estimated payroll of the membership as of that date.

TABLE 2.—Estimated annual contributions required to support the Civil Service Retirement and Disability Fund prepared as of June 30, 1952

Contribution	Normal cost as—		Deficiency cost as—		Total cost as—	
	Percent- age of payroll	Annual amount	Percent- age of payroll	Annual amount	Percent- age of payroll	Annual amount
Total .....	8.78	\$567,934,300	3.06	\$197,936,100	11.84	\$765,870,400
Payable by employees .....	6.00	388,110,000	-----	-----	6.00	388,110,000
Payable by Government .....	2.78	179,824,300	3.06	197,936,100	8.84	377,760,400

The preceding table shows the normal cost to support the benefits accruing on account of current service to be equivalent to 8.78 percent of payroll. The employees contribute 6 percent toward the normal cost and, therefore, there remains 2.78 percent to be paid by the Government. On the basis of the estimated payroll as of June 30, 1952, this represents an annual payment of \$179,824,300. The deficiency cost, or the annual cost due to the accrued liability, is shown by the table to be \$197,936,100. This entire deficiency contribution is a liability of the Government. Therefore, the total annual contribution recommended for payment by the Government on the basis of the estimated payroll as of June 30, 1952, is \$377,760,400. The actual appropriation for the fiscal year 1953 was approximately \$325,304,154.

The normal percentage rate of contribution of 2.78 percent was developed on the basis of the valuation as of September 30, 1947,

prepared by the Civil Service Commission, with an adjustment estimated to cover the increased cost due to the optional benefits as amended by Public Law 310, effective September 30, 1949. The deficiency rate of 3.06 percent represents the percentage of payroll as of June 30, 1952, which produces 4 percent interest on the estimated deficiency as of that date. This is the minimum payment which will keep the principal amount of deficiency from increasing. The amount of annual deficiency payment is greater than that shown in last year's report because the payment made during the year was less than interest at 4 percent on the deficiency. Hence the deficiency increased during the year so that a larger payment is needed for the current year to provide the accruing interest.

LIABILITIES OF FUND ON ACCOUNT OF ANNUITANTS ON THE ROLL AS OF JUNE 30, 1952

A valuation of the liabilities of the fund on account of annuitants on the roll as of June 30, 1952, was prepared and the results of the valuation are summarized in table 3 below. The mortality tables used for the valuation were those used in the quinquennial valuation made as of June 30, 1940. These tables are given in the 22d annual report of the Board and therefore have not been reproduced in this report.

TABLE 3.—Liabilities on account of annuitants as of June 30, 1952

Group	Present value of benefits to annuitants on the roll		
	Regular annuities	Voluntary annuities	Total annuities
Retired on account of age and voluntary and involuntary separation	\$1,320,929,205	\$5,834,110	\$1,326,763,315
Retired on account of disability	464,326,889	752,819	465,079,708
Reversionary annuities to designated beneficiaries <sup>1</sup>	216,927,312	-----	216,927,312
Survivorship annuities <sup>1</sup>	203,243,076	-----	203,243,076
Total	2,214,426,482	6,586,929	2,221,013,411

<sup>1</sup> Includes voluntary annuities.

In the 31st annual report of the Board, the liabilities on account of annuities payable to annuitants on the roll as of June 30, 1951, were shown to be \$2,016,051,658, as compared with \$2,221,013,411 as of June 30, 1952, or an increase in liabilities of nearly \$205 million during the past year.

SUMMARY OF MORTALITY EXPERIENCE OF ANNUITANTS FOR THE YEAR ENDED JUNE 30, 1952

For the purpose of making a check of the mortality tables for annuitants, the actual and expected number of deaths and of annuities canceled by death during the past year were prepared separately for men and women who had retired on account of age, or voluntary or involuntary separation from service, and for men and women who had retired on account of disability. The following table summarizes the results of the comparison.

TABLE 4.—Summary of the comparisons of the actual and expected deaths among annuitants July 1, 1951, to June 30, 1952

Group	Number of deaths			Annuities terminated by deaths		
	Actual	Expected	Difference	Actual	Expected	Difference
Employee annuitants retired on account of age, voluntary, and involuntary separation:						
Men.....	5,845	5,891.8	+46.8	\$7,484,400	\$7,654,104	+\$169,704
Women.....	587	720.3	+133.3	696,772	755,820	+159,048
Employee annuitants retired on account of disability: <sup>1</sup>						
Men.....	2,406	1,590.7	-815.3	2,348,148	1,495,056	-853,092
Women.....	424	356.1	-67.9	374,472	302,172	-72,300

<sup>1</sup> The expected cases of disability are calculated on an aggregate rather than a select table, which tends to show a more favorable experience than would be indicated if select tables were used, due to the sizable increase in the number of annuitants in recent years. However, the last test of the mortality of deceased annuitants indicated that the difference in mortality by duration did not, in the opinion of the Board, justify the use of select tables.

A check of the mortality tables used for widows was also prepared this year. The following table summarizes the comparison.

TABLE 5.—Summary of the comparisons of the actual and expected deaths among survivor annuitants, July 1, 1951, to June 30, 1952

Group	Number of deaths			Annuities terminated by deaths		
	Actual	Expected	Difference	Actual	Expected	Difference
Widows under secs. 12 (c) (1) and 12 (c) (2).....	114	148.5	+34.5	\$65,484	\$85,524	+\$20,040
Widows under sec. 4 (b).....	25	37.6	+12.6	24,048	32,364	+8,316
Widows under sec. 8.....	382	412.9	+30.9	179,424	198,432	+19,008
Total.....	521	599.0	+78.0	268,956	316,320	+47,364

## COMMENTS ON ANNUITANTS' EXPERIENCE

The actual experience of annuitants during the year ended June 30, 1952, has been compared with the experience of previous years and the following points noted.

In general, the actual experience of annuitants during the year ended June 30, 1952, followed the trend of previous years. Again among pensioners retired on account of age or voluntary separation, there were fewer deaths than expected. In the case of men, however, the actual number of deaths were 99 percent of the expected which was the same relationship as obtained during the previous year and the actual amounts of annuities canceled by death represented about the same percentage of the annuities expected to be canceled as in the previous year. In the case of women, the departure of the actual experience from the expected continues to be more pronounced than in the case of men but there was not much change in the experience of the past year from that of the previous year. By number, the actual deaths represented 81.5 percent of the expected as contrasted with 79.7 percent the previous year and by annuities the percentages were 79 percent during the past year as contrasted with 78 percent during the previous year.

With respect to employees retired on account of disability, the experience followed that of past years. The actual deaths during the past year exceeded the expected deaths and the actual annuities terminated by death exceeded the expected annuities by a wide margin.

The table used for widows is the same as for women employees and as in the case of women employees the actual experience is showing that the table is not conservative.

The Board recommends that when a new valuation of the fund is prepared, the matter of mortality tables to be used be reviewed, with the thought that at least for women more conservative tables should be used.

#### REVIEW OF HISTORY OF CIVIL SERVICE RETIREMENT AND DISABILITY FUND

The civil service retirement and disability fund was established under an act of Congress May 22, 1920. A retirement age of 70 was set as the normal retirement age for general employees and the maximum pension payable was \$720 per annum. Employees were required to pay 2½ percent of their pay. No appropriations by the Government were payable. The first annual report of the Board of Actuaries, which was issued as of June 30, 1921, showed that the cost of the benefits promised under the act was equivalent to an annual contribution of 5.87 percent of payroll and with the employees paying 2.50 percent of salary an unfunded cost was accruing equivalent to 3.37 percent of payroll.

The fund continued without change until 1926 when the benefits were increased to provide annuities based on the average compensation of the last 10 years of service, with a maximum annuity of \$1,000 per annum to an employee with 30 or more years of service at retirement. At the same time employees' contributions were increased to 3½ percent of payroll. No appropriations were payable by the Government and the fund continued to be supported on the basis of employees' contributions, with the interest earnings, until the fiscal year 1929 when the first annual appropriation was made by the Government. During the years that had elapsed since the fund was established the annuity roll had increased from \$3,650,000 per annum to over \$12,300,000. The annuitants themselves had contributed for very short periods and had covered by their own contributions only a very small part of the cost of their annuities, and therefore the contributions of employees in active service were being drawn upon to provide the current payments to annuitants. Since employees were entitled to receive annuities in excess of what their own contributions would provide, if they stayed in until retirement, and to receive the amount contributed with interest, if they left before retirement or died before retirement, a deficiency was developing in the fund which would have to be paid up sooner or later if the contributing employees were to receive their full benefits. The Republican administration at that time took the position that the public should know what costs the taxpayers were accruing on account of civil service annuities and should meet the accruing cost by appropriations to the fund. The first appropriation on this basis was made for the fiscal year 1929.

Employees were not satisfied with the retirement provisions. A number of proposals for liberalizing the benefits were submitted. The Board of Actuaries made numerous estimates of the cost of the various proposals so that Congress would know what liability was being incurred by any change and would not adopt any liberalizing amendment without knowledge of its cost. The employees were particularly anxious for a 30-year retirement provision. Under amendments effective May 29, 1930, a provision was adopted for retirement 2 years before the normal retirement age provided the employee had at least 30 years of service. This meant a minimum normal retirement age of 68 for general employees. Also the benefit was increased to \$900 per annum after 30 years of service plus the annuity that the members' contributions would provide or, if greater, a benefit based on average final salary but not exceeding an annuity of \$1,200 per annum. Employees' contributions were not changed but provision was made for deducting from their contributions \$1 per month. This contribution went into a general fund and not to the employee's credit in determining his refund at resignation or his annuity at retirement.

In 1939 a new minimum benefit was included, namely, that the Government annuity be at least equal to the annuity provided by the member. Then in 1942 the act was further amended to permit retirement at age 60 after 30 years of service or at age 62 after at least 15 years of service. A further minimum was added fixed at the rate of one-seventieth of average compensation of the last 5 years of service for each year of service. Vesting benefits after 5 years of service were added. The employees' contributions were increased to 5 percent of salary. Again in 1948 the act was amended to provide death benefits to widows and children, and to introduce an entirely new benefit formula of 1½ percent of the average salary of the last 5 years of service for each year of service but not less than 1 percent of such average salary plus \$25. The employees' contributions were increased to 6 percent and the deduction of \$1 from credited contributions was eliminated.

During this period of liberalization of the benefits of the fund no change in the retirement law regarding appropriations by the Government was made. Each year the Board of Actuaries gave in its report the percentage of payroll which if paid by the Government would meet its share of the cost of benefits on account of the service being rendered by employees then in active service and the percentage of payroll which would if paid over a long period of years gradually liquidate the deficiency which had arisen on account of the crediting of service rendered prior to the establishment of the fund and deficits in past appropriations. For several years beginning with the fiscal year 1929 appropriations were made based on these estimates. Then appropriations were made at amounts less than needed for this purpose so that each year a deficit was added to the unfunded obligations of the Government. While the Government increased its appropriation over the years from 1935 until the present year, the amounts appropriated failed to keep abreast with the increase in benefits and the increase in coverage. For the fiscal year 1954 no appropriation has been made pending a study of the policies to be followed by the Government in funding its obligations under the act.

The argument has been made that reserves should not be built up to meet the Government's obligations, that since any moneys set aside are to be invested in the Government's own securities, the Government is in effect borrowing from itself and in the end the outlay would be the same whether the Government set aside a lesser amount now and paid its interest or appropriated a greater amount later. In support of this argument the hypothetical case of a government without a debt was cited and it was stated that in order to have a reserve fund such a government would need to go into debt in order to issue the bonds in which to invest. This argument is novel and it would seem to mean one of two things. It might mean that a government, without a debt, would have the privilege of incurring any deferred pension liabilities for the public to meet that it wishes to incur, because if it does not take such deferred liabilities into account in its bookkeeping, it is in a good financial position. We would assume that in such a case any system would have to be noncontributory because there would be no way of investing reserves arising from employees' contributions. This theory has operated to the disadvantage of taxpayers in many cases where it has been used, and to a loss to employees in others. The other alternative would seem to be that such a government should set aside funds to meet its obligations, when it incurs them, but not invest them but hold them in cash. Perhaps there is a third possibility, namely, that if no provision to meet pension costs is made as the costs accrue future pensions may be cut if future costs are too high. This argument may be sound in a system like the Social Security System, where almost the entire public is involved, but it hardly applies to a staff pension system where employees are rendering definite service to the employer in return for a definite promise of a stated pension. In the latter case the pension is not like social insurance, but it is in the nature of deferred compensation.

#### CONCLUSION

The Board of Actuaries has watched the development of the civil service retirement and disability fund through its 32 years of operation. The Board has seen the system start with a coverage of approximately 330,000 civil service employees and increase to 5 times that number. It has seen the covered payroll increase to 15 times the payroll of 1921. It has seen the annual annuity roll increase from \$3,650,000 in 1921 to \$226,800,000 in 1952. There are few organizations of which the Board has knowledge which carry as heavy an obligation for annuitants. The Board has seen the accrued liability of the Government increase from almost \$250 millions in excess of the funds in hand of slightly under \$10 millions as of June 30, 1921, to approximately \$4,940 millions in excess of the funds in hand of over \$5,000 millions as of June 30, 1952.

One point has been noted in the history of funds operating on the reserve basis which the Board believes should be considered in connection with the civil service retirement and disability fund. When a fund operates for a small part of the population or for the employees of one organization there are always demands for increased benefits and for reduction in employees' contributions. If the system operates on a reserve basis then whenever benefits are liberalized, immediate increases in the budget of the employer result. This causes the

employer to weigh the demands of the employees and to grant only those demands which justify an increase in the expense of the organization. If the civil service retirement and disability fund is operated on a reserve basis, liberalization would mean an increase in the future budget in the year following the adoption of the more liberal benefits. For example, if the system had not been put on a reserve basis beginning with the appropriation made in the fiscal year 1929, the Congress probably would have granted retirement after 30 years of service regardless of age, because there was a strong demand for such a change and the only resistance to it seemed to stem from the fact that the increase in cost under the reserve basis was immediate. There is no method known to the Board of Actuaries which puts a better brake on unwarranted liberality of benefits than the reserve system which requires the cost of liberalizing benefits to be paid as it accrues.

While employees would seem to have less liberal treatment under such a system, the fact is that for employees as a whole it is better to have reasonable benefits that can be depended upon than to have higher benefits paid to those retiring in the immediate future with substantially reduced benefits to those retiring in the distant future when more nearly the true cost of the program emerges.

According to the Board of Actuaries' estimate, appropriations approximately equal to members' contributions are needed from the Government in order to build up the reserves for the annuities which are being earned by present employees and take care of the deficit which has developed because of benefits based on service rendered prior to the establishment of the fund and insufficient appropriations in the past. If no appropriations for the time being are made, possibly appropriations at double this rate will be required eventually to meet the disbursements from the fund. It would seem an unsatisfactory outlook for the younger employees to have to depend on future taxpayers to make a much higher appropriation for their annuities than present taxpayers are willing to make who have had the benefit of their services. In the opinion of the Board, consideration should be given to having the Government contribute on a reserve basis as employees are doing or else contributions of both the employees and the Government should be reduced to a nonreserve basis. For example, if both employees and taxpayers need to pay approximately 6 percent of payroll to support the present benefits on a reserve basis, both should pay at this rate. If, however, the Government would decide to pay less than 6 percent at this time with the thought that the children of present taxpayers, that is, future taxpayers, should pay more than 6 percent, then the employees should likewise be permitted to pay less than 6 percent. If the concept of contributions for the social security benefits should be changed resulting in reduced contributions, it is fair to suppose that the contributions of both employees and employers would be reduced rather than to expect that the employers' contributions would be discontinued and the employees' contributions continued in full. It seems unreasonable to expect employees to continue their full contributions under the civil service retirement and disability fund and not have the Government make any contributions.

From the viewpoint of both the employees and the taxpayers it is the hope of the Board of Actuaries that the fund may be maintained in the future on a full reserve basis.



# SUMMARY OF TABULATIONS OF ANNUITANTS' DATA

The following tables give for men and women separately the number of annuitants and their annuities as of June 30, 1952, distributed by age as used as a basis for the valuation.

TABLE 6.—The number and regular monthly annuities of annuitants on the roll classified by sex and age as of June 30, 1952—retired on account of age and voluntary and involuntary separations

Age	Men		Women		Age	Men		Women	
	Number	Monthly annuities	Number	Monthly annuities		Number	Monthly annuities	Number	Monthly annuities
41	1	\$27			73	5,595	\$633,579	972	\$86,621
42	1	15			74	4,970	547,661	848	75,040
43					75	4,308	464,749	713	62,608
44	2	87			76	4,111	437,872	664	58,444
45	2	111	1	\$116	77	3,455	366,387	567	48,200
46	15	685	1	67	78	2,922	309,716	491	41,977
47	15	909	5	369	79	2,373	254,268	383	34,077
48	19	934	7	580	80	2,163	224,284	354	30,344
49	23	1,607	9	804	81	1,698	181,052	249	20,697
50	47	3,346	13	1,017	82	1,461	154,959	240	20,586
51	75	6,374	22	1,882	83	1,173	123,947	200	16,208
52	102	11,766	33	3,263	84	950	103,279	171	14,117
53	99	12,110	40	4,669	85	720	78,787	132	10,221
54	129	16,502	35	4,410	86	520	55,362	98	7,774
55	211	23,314	73	8,174	87	398	41,211	73	5,847
56	615	66,790	171	19,604	88	302	32,290	54	4,387
57	855	85,026	221	25,378	89	227	24,006	42	3,168
58	1,030	98,273	254	25,516	90	176	18,644	25	1,930
59	1,276	124,268	315	33,274	91	115	11,736	23	1,951
60	1,770	172,243	308	33,389	92	81	8,997	9	776
61	2,477	276,547	397	46,054	93	59	6,070	7	582
62	3,327	367,382	545	56,092	94	34	3,587	7	577
63	4,656	490,580	961	84,846	95	16	1,364	2	238
64	5,721	578,481	1,132	97,705	96	11	1,096	3	274
65	5,744	588,466	1,067	88,307	97	7	579	3	233
66	6,188	638,293	1,198	103,170	98			3	212
67	5,608	600,404	1,145	98,539	99	2	183		
68	5,918	639,842	1,137	97,517	100				
69	5,624	630,663	1,096	95,795	101	3	196		
70	6,213	726,041	1,091	100,380					
71	6,516	816,131	1,116	107,836					
72	6,166	726,239	1,034	94,070	Total	108,293	11,787,917	19,760	1,779,902

TABLE 7.—The number and voluntary monthly annuities of annuitants on the roll, classified by sex and age as of June 30, 1952—retired on account of age and voluntary and involuntary separations

Age	Men		Women		Age	Men		Women	
	Number	Monthly annuities	Number	Monthly annuities		Number	Monthly annuities	Number	Monthly annuities
49			1	\$18	71	125	\$3,221	38	\$644
50	1	\$53	1	1	72	110	2,334	29	446
51			29	29	73	89	2,462	29	410
52			1	79	74	65	1,606	21	312
53			2	46	75	50	1,426	15	186
54	5	156	1	2	76	51	1,087	16	203
55	5	90	1	13	77	39	1,111	12	104
56	12	232	7	115	78	24	529	9	97
57	17	468	8	149	79	28	692	6	76
58	19	520	12	227	80	10	247	5	120
59	31	674	14	236	81	12	410	6	42
60	25	680	9	96	82	10	433	1	25
61	38	947	14	313	83	3	165		
62	46	773	24	343	84	1	8		
63	97	2,216	37	492	85	4	266		
64	92	1,827	48	775	86	1	18		
65	124	3,352	27	424	87				
66	135	2,915	46	669	88				
67	121	2,672	47	601	89				
68	132	3,075	48	828	90	2	105		
69	115	2,906	40	605					
70	108	2,282	28	423	Total	1,747	41,937	604	9,199

TABLE 8.—The number and regular monthly annuities of annuitants on the roll, classified by sex and age as of June 30, 1952—retired on account of disability

Age	Men		Women		Age	Men		Women	
	Number	Monthly annuities	Number	Monthly annuities		Number	Monthly annuities	Number	Monthly annuities
24.....	1	\$15	-----	-----	63.....	1,731	\$142,978	457	\$36,713
25.....	5	106	3	\$77	64.....	1,665	134,712	389	29,497
26.....	4	88	4	102	65.....	1,293	105,423	341	28,090
27.....	11	281	5	106	66.....	1,116	91,371	342	28,512
28.....	10	288	6	131	67.....	894	77,338	333	24,831
29.....	38	1,002	9	262	68.....	793	67,466	272	20,356
30.....	44	1,175	15	400	69.....	651	55,185	230	16,773
31.....	38	1,052	16	440	70.....	660	55,538	234	17,349
32.....	47	1,430	13	383	71.....	557	47,255	202	14,859
33.....	64	1,900	18	518	72.....	575	48,641	208	14,471
34.....	76	2,672	21	601	73.....	538	47,503	200	15,420
35.....	92	3,048	25	920	74.....	505	44,481	162	12,526
36.....	99	3,529	25	730	75.....	456	40,003	138	10,731
37.....	124	4,783	38	1,350	76.....	394	34,773	143	11,109
38.....	147	5,729	40	1,466	77.....	331	28,405	116	8,431
39.....	145	5,347	57	2,013	78.....	254	22,232	94	7,497
40.....	170	6,899	49	2,078	79.....	181	16,370	101	7,937
41.....	181	7,730	58	2,222	80.....	198	17,446	69	5,381
42.....	230	11,535	58	2,646	81.....	148	13,175	63	5,497
43.....	234	11,817	80	3,689	82.....	112	10,396	58	4,733
44.....	262	14,384	103	4,700	83.....	77	6,348	26	2,429
45.....	316	18,456	104	5,591	84.....	52	4,396	22	2,008
46.....	300	18,281	121	6,080	85.....	48	3,978	13	1,185
47.....	379	23,074	124	6,845	86.....	42	4,100	11	756
48.....	380	26,152	175	10,081	87.....	22	2,025	9	860
49.....	414	29,264	172	10,084	88.....	19	1,749	-----	-----
50.....	528	38,572	242	15,033	89.....	12	698	3	289
51.....	672	42,695	242	16,335	90.....	6	387	1	80
52.....	859	68,307	347	24,166	91.....	8	644	5	368
53.....	937	75,611	392	30,964	92.....	1	104	1	125
54.....	1,208	98,483	433	32,930	93.....	1	50	-----	-----
55.....	1,456	120,098	401	32,299	94.....	-----	-----	2	97
56.....	1,922	159,070	492	40,063	95.....	1	46	1	62
57.....	2,097	176,006	498	40,143	96.....	1	102	1	88
58.....	2,181	187,910	480	40,062	98.....	-----	-----	1	71
59.....	2,190	198,529	474	38,465	100.....	1	24	-----	-----
60.....	2,270	198,228	542	42,416	Total.	37,220	3,018,735	11,057	811,452
61.....	1,972	174,108	494	36,750					
62.....	1,875	157,789	433	33,182					

TABLE 9.—The number and voluntary monthly annuities of annuitants on the roll, classified by sex and age as of June 30, 1952—retired on account of disability

Age	Men		Women		Age	Men		Women	
	Number	Monthly annuities	Number	Monthly annuities		Number	Monthly annuities	Number	Monthly annuities
34.....	1	\$2	-----	-----	61.....	29	\$399	6	\$14
37.....	3	12	-----	-----	62.....	17	265	4	32
38.....	1	1	-----	-----	63.....	25	301	12	88
39.....	-----	-----	1	\$1	64.....	15	137	5	43
40.....	1	14	-----	-----	65.....	13	134	6	62
42.....	3	26	-----	-----	66.....	9	38	6	60
44.....	4	44	-----	-----	67.....	9	71	6	49
45.....	2	22	1	1	68.....	6	92	2	59
46.....	3	17	1	-----	69.....	6	39	3	11
47.....	7	52	-----	-----	70.....	7	161	3	56
48.....	6	43	2	3	71.....	4	76	6	92
49.....	2	17	1	8	72.....	2	12	4	30
50.....	3	45	-----	-----	73.....	2	38	2	10
51.....	2	27	3	2	74.....	3	37	3	40
52.....	6	72	1	3	75.....	5	47	2	5
53.....	9	112	4	41	76.....	3	152	-----	-----
54.....	8	114	5	30	77.....	3	42	-----	-----
55.....	14	112	3	23	78.....	3	70	-----	-----
56.....	14	171	7	39	79.....	1	5	1	10
57.....	22	213	7	71	82.....	-----	-----	1	5
58.....	14	155	8	131	Total.	322	4,352	137	1,285
59.....	17	282	6	79					
60.....	27	693	15	187					

TABLE 10.—The number and monthly annuities of survivor annuitants on the roll, classified by age as of June 30, 1952, survivors of deceased employees

CHILDREN

Age	Number	Monthly annuities	Age	Number	Monthly annuities
Under 6 months.....	8	\$108	24 years.....	7	\$101
1 year.....	87	1,041	25 years.....	12	309
2 years.....	145	1,761	26 years.....	7	107
3 years.....	193	2,285	27 years.....	11	262
4 years.....	285	3,463	28 years.....	8	176
5 years.....	366	4,643	29 years.....	10	125
6 years.....	386	5,378	30 years.....	13	298
7 years.....	384	5,185	31 years.....	6	158
8 years.....	417	5,760	32 years.....	7	142
9 years.....	461	6,591	33 years.....	3	74
10 years.....	498	7,381	34 years.....	5	139
11 years.....	484	7,632	35 years.....	3	53
12 years.....	540	8,589	36 years.....	5	115
13 years.....	567	9,796	37 years.....	6	139
14 years.....	601	10,076	38 years.....	3	69
15 years.....	697	11,787	39 years.....	4	74
16 years.....	735	13,285	40 years.....	3	20
17 years.....	741	13,270	41 years.....	1	120
18 years.....	348	6,687	42 years.....	4	12
19 years.....	9	206	43 years.....	2	30
20 years.....	7	119	44 years.....	1	40
21 years.....	11	232	45 years.....	1	
22 years.....	4	84			
23 years.....	11	185			
			Total.....	8,107	128,129

WIDOWS

19 years.....	2	\$35	54 years.....	769	\$35,427
20 years.....	1	29	55 years.....	626	29,894
21 years.....			56 years.....	632	30,576
22 years.....	2	25	57 years.....	653	30,718
23 years.....	6	99	58 years.....	597	30,899
24 years.....	6	113	59 years.....	559	27,479
25 years.....	12	187	60 years.....	542	28,816
26 years.....	15	443	61 years.....	479	24,936
27 years.....	29	527	62 years.....	403	22,236
28 years.....	38	620	63 years.....	420	23,133
29 years.....	40	900	64 years.....	376	20,200
30 years.....	35	798	65 years.....	243	13,542
31 years.....	56	1,282	66 years.....	254	13,618
32 years.....	63	1,358	67 years.....	228	12,357
33 years.....	66	1,685	68 years.....	198	10,928
34 years.....	92	2,329	69 years.....	152	8,153
35 years.....	88	2,284	70 years.....	126	5,681
36 years.....	108	3,194	71 years.....	104	5,430
37 years.....	127	3,503	72 years.....	86	4,591
38 years.....	153	4,278	73 years.....	60	2,472
39 years.....	140	4,324	74 years.....	57	2,348
40 years.....	171	5,377	75 years.....	34	1,595
41 years.....	191	6,546	76 years.....	22	723
42 years.....	183	6,457	77 years.....	12	370
43 years.....	196	7,593	78 years.....	10	495
44 years.....	194	7,676	79 years.....	10	204
45 years.....	233	9,424	80 years.....	4	187
46 years.....	221	9,474	81 years.....	2	25
47 years.....	218	8,601	82 years.....	2	72
48 years.....	241	10,453	83 years.....	4	149
49 years.....	221	9,767	84 years.....	1	229
50 years.....	286	13,538	85 years.....	1	12
51 years.....	548	25,485	86 years.....	1	22
52 years.....	653	29,495			
53 years.....	635	29,356			
			Total.....	12,940	594,862

TABLE 11.—The number and monthly annuities of survivor annuitants on the roll, classified by age as of June 30, 1952—survivors of deceased annuitants<sup>1</sup>

CHILDREN

Age	Number	Monthly annuities	Age	Number	Monthly annuities
1.....	5	\$74	20.....	4	\$106
2.....	11	161	21.....	2	31
3.....	15	243	22.....	1	8
4.....	23	289	24.....	2	60
5.....	37	640	25.....	2	44
6.....	54	791	26.....	5	115
7.....	47	806	27.....	1	30
8.....	49	802	29.....	1	30
9.....	59	1,007	30.....	2	56
10.....	66	1,111	31.....	4	110
11.....	64	1,121	32.....	1	30
12.....	72	1,102	34.....	3	89
13.....	61	1,011	35.....	1	30
14.....	80	1,713	38.....	3	67
15.....	98	1,937	39.....	3	83
16.....	101	1,940	42.....	1	7
17.....	120	2,428	48.....	1	40
18.....	52	1,049			
19.....	1	10			
Total.....				1,062	19,071

WIDOWS UNDER SEC. 12 (c) (2)

26.....	3	\$57	42.....	23	\$1,077
28.....	4	67	43.....	21	837
29.....	2	53	44.....	29	1,320
30.....	1	17	45.....	27	1,255
31.....	2	39	46.....	19	742
32.....	6	196	47.....	27	1,225
33.....	4	143	48.....	34	1,543
34.....	13	408	49.....	35	1,618
35.....	10	310	50.....	24	1,074
36.....	17	652	51.....	9	328
37.....	10	552	52.....	7	500
38.....	14	466	53.....	3	127
39.....	16	479			
40.....	23	710			
41.....	17	580			
Total.....				405	16,375

WIDOWS OTHER THAN UNDER SEC. 12 (c) (2)

23.....	1	\$36	63.....	625	\$28,298
26.....	1	11	64.....	694	32,039
27.....	1	25	65.....	619	29,061
30.....	4	80	66.....	694	33,111
31.....	2	32	67.....	685	31,694
32.....	5	130	68.....	812	37,283
33.....	6	182	69.....	679	30,870
34.....	4	90	70.....	678	30,612
35.....	9	190	71.....	606	27,024
36.....	16	414	72.....	659	28,009
37.....	19	385	73.....	592	26,702
38.....	24	651	74.....	570	24,062
39.....	25	709	75.....	550	22,979
40.....	32	714	76.....	504	21,651
41.....	34	1,055	77.....	418	17,109
42.....	44	1,195	78.....	371	15,434
43.....	55	1,601	79.....	301	13,448
44.....	68	2,112	80.....	236	11,657
45.....	68	1,883	81.....	206	8,920
46.....	66	1,776	82.....	169	6,846
47.....	92	2,836	83.....	122	4,747
48.....	95	3,043	84.....	105	4,262
49.....	139	4,374	85.....	67	2,770
50.....	148	4,909	86.....	49	1,964
51.....	210	7,431	87.....	41	1,545
52.....	307	11,543	88.....	23	876
53.....	290	11,537	89.....	13	646
54.....	317	13,162	90.....	10	431
55.....	348	13,729	91.....	2	100
56.....	382	16,059	92.....	4	147
57.....	432	18,678	93.....	3	91
58.....	425	19,072	94.....	2	45
59.....	481	20,845	101.....	2	70
60.....	515	22,579			
61.....	518	23,418			
62.....	647	27,846			
Total.....				16,958	728,606

<sup>1</sup> Includes voluntary annuities continued to survivors.

## CIVIL SERVICE RETIREMENT AND DISABILITY FUND

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TABLE 11.—The number and monthly annuities of survivor annuitants on the roll, classified by age as of June 30, 1952—survivors of deceased annuitants<sup>1</sup>—Con.

## ALL OTHERS

Age	Men		Women		Age	Men		Women	
	Num-ber	Monthly annuities	Num-ber	Monthly annuities		Num-ber	Monthly annuities	Num-ber	Monthly annuities
9			1	\$21	63	11	\$282	2	\$24
20	1	\$43			64	10	298	1	97
23	1	2			65	5	120	1	27
28	1	11			66	12	435	1	27
29			1	51	67	10	225		
32			1	20	68	10	263	1	66
34			1	13	69	12	239	3	291
36	1	11			70	7	202	3	270
37	1	32	1	7	71	8	194	1	96
38	1	8			72	18	508	1	32
39	1	34	2	54	73	17	599		
40	2	27	2	37	74	7	228		
41	3	42	2	49	75	15	479	1	23
42	1	46	2	109	76	10	302		
43	3	51	1	2	77	13	347		
44	3	68	1	19	78	12	212	1	32
45	2	150			79	12	347		
46	3	65	3	209	80	8	145		
47	1	42	1	18	81	11	245		
48	3	53	2	51	82	6	115		
49	3	38	1	10	83	5	170		
50	1	37			84	6	238		
51	10	181	1	48	85	1	28	1	13
52	3	59	1	6	86	3	73		
53	5	154			87	1	50		
54	4	69	2	62	88	1	42		
55	4	98	2	35	89	2	44		
56	5	176	1	5	90	2	73		
57	14	365	2	113	91	1	26		
58	12	284	2	38	92	1	23		
59	15	494	2	31	93	2	51		
60	13	320	4	103	100	1	8		
61	5	152	2	55					
62	10	308			Total	372	10,016	58	2,164

<sup>1</sup> Includes voluntary annuities continued to survivors.